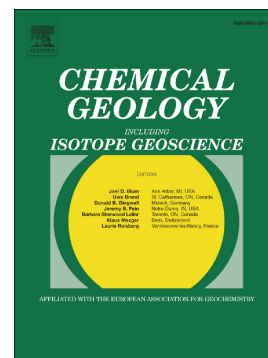


# Accepted Manuscript

Alkali-carbonate melts from the base of cratonic lithospheric mantle: Links to kimberlites

Alexander V. Golovin, Igor S. Sharygin, Vadim S. Kamenetsky, Andrey V. Korsakov, Gregory M. Yaxley



PII: S0009-2541(18)30081-0  
DOI: doi:[10.1016/j.chemgeo.2018.02.016](https://doi.org/10.1016/j.chemgeo.2018.02.016)  
Reference: CHEMGE 18655  
To appear in: *Chemical Geology*  
Received date: 29 April 2017  
Revised date: 7 February 2018  
Accepted date: 8 February 2018

Please cite this article as: Alexander V. Golovin, Igor S. Sharygin, Vadim S. Kamenetsky, Andrey V. Korsakov, Gregory M. Yaxley , Alkali-carbonate melts from the base of cratonic lithospheric mantle: Links to kimberlites. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Chemge(2018), doi:[10.1016/j.chemgeo.2018.02.016](https://doi.org/10.1016/j.chemgeo.2018.02.016)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

**Alkali-carbonate melts from the base of cratonic lithospheric mantle: links to kimberlites**

Alexander V. Golovin<sup>1,2\*</sup>, Igor S. Sharygin<sup>1</sup>, Vadim S. Kamenetsky<sup>3</sup>, Andrey V. Korsakov<sup>1</sup>,  
Gregory M. Yaxley<sup>4</sup>

<sup>1</sup> *Sobolev Institute of Geology and Mineralogy, Siberian Branch Russian Academy of Sciences,  
Koptiyuga Pr. 3, Novosibirsk 630090, Russian Federation*

<sup>2</sup> *Diamond and Precious Metal Geology Institute, Siberian Branch Russian Academy of Sciences,  
Lenina Pr. 39, Yakutsk 677000, Russian Federation*

<sup>3</sup> *School of Physical Sciences, University of Tasmania, Hobart, Tasmania 7001, Australia*

<sup>4</sup> *Research School of Earth Sciences, The Australian National University, Canberra ACT 2601,  
Australia*

\*Corresponding author: Alexander V. Golovin, e-mail: avg@igm.nsc.ru

**Highlights:**

We studied melt inclusions in olivine of sheared peridotite xenoliths from kimberlites  
These xenoliths are derived from 180–230 km and are among the deepest mantle rocks  
Alkali-rich carbonates, halides, sulphates and aragonite were found in melt inclusions  
Melt inclusions are snapshots Cl–S–alkali-rich carbonate melt originated at > 230 km  
The high-pressure melt inclusions may represent near primary kimberlite melt

**Abstract**

Identification of the primary compositions of mantle-derived melts is crucial for understanding mantle compositions and physical conditions of mantle melting. However, these melts rarely reach the Earth's surface unmodified because of contamination, crystal fractionation and degassing, processes that occur almost ubiquitously after melt generation. Here we report snapshots of the melts preserved in sheared peridotite xenoliths from the

Download English Version:

<https://daneshyari.com/en/article/8910286>

Download Persian Version:

<https://daneshyari.com/article/8910286>

[Daneshyari.com](https://daneshyari.com)